

REMARKS

New claims 66-74 are added. Support for the new claims is provided by the originally-filed application at, for example, pages 5-15.

Claims 42-44, 49, 50, 52 and 63-65 are allowed.

Claims 34, 35 and 40 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 53 and 56 are rejected under 35 U.S.C. §102(b) as being anticipated by Leedy (U.S. Patent No. 5,323,035). Claims 31-33, 36-39, 41, 45, 46, 51, 54-55, 57, 60, 58, 59, 61 and 62 are rejected under 35 U.S.C. §103(a) as being unpatentable over Leedy in view of Asch, et al. (U.S. Patent No. 4,520,314).

Regarding the obviousness rejection against independent claim 31 based on Leedy and Asch, the claim recites a substrate comprising bulk semiconductive material. The Examiner states Leedy fails to teach this limitation and presents Asch to provide the deficiency in the alleged teachings of claim 31. However, Asch teaches monocrystalline silicon and the Examiner has failed to uncover teachings that such is bulk semiconductive material. The Examiner reasons that since Applicant's disclosure teaches "semiconductor substrate fragment 10 comprised of a bulk substrate 12, preferably constituting monocrystalline silicon" (pg. 7, Ins. 7-9 of originally-filed application), that the Asch teaching to monocrystalline silicon is a teaching to bulk semiconductive material.

The Examiner presents no reference or references of record for teachings to suggest a bulk semiconductive material as recited in claim 31. To the contrary, bulk semiconductive material in the semiconductor arts refers to bulk material of a substrate.

As shown in the example of Figs. 1-11 of the specification, projections are formed from bulk material of the original substrate. As discussed below, clearly Leedy teaches depositions to form structures and can not be considered to teach the bulk limitations recited in the claims. Furthermore, Leedy is clearly not modifiable to teach the bulk limitation in view of the detailed explicit disclosure in cols. 3-5 to deposition.

The Examiner states that it is simply an obvious design choice to modify the substrate of the Leedy device to be bulk semiconductive material. Respectfully, this statement is egregiously inappropriate on at least two levels. First, for a proper 103 rejection, the Examiner must establish a factual basis to support the legal conclusion of obviousness. See *In re Fine*, 837 F.2d 1071, 1073, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988). Reasons for the decision to combine references must be articulated. *In re Lee*, 277 F.3d 1338, 1342, 61 USPQ2d 1430, 1433 (Fed. Cir. 2002). The Examiner must show that there is a rationale to combine references relied on as evidence of obviousness. *Id.* 277 F.3d at 1343, 61 USPQ2d at 1433-34. It is insufficient to rely on the Examiner's own understanding or experience, or the Examiner's assessment of what would be basic knowledge or common sense, but rather must point to some concrete evidence in the record in support of these findings. *In re Zurko*, 258 F.3d 1379, 1386, 59 USPQ2d 1693, 1697 (Fed. Cir. 2001). The Examiner must make requisite findings, based on evidence of record, and also explain the reasoning by which the findings are deemed to support the examiner's conclusion. Respectfully, the Examiner is avoiding the requirement to locate **objective evidence** and **specific factual findings** for modifying the Leedy device, pursuant to the above wealth of Federal Circuit Court authority, and simply stating a conclusion that such modification is a design choice. The Examiner's reasoning based on

“design choice” is inappropriate and without the required **objective evidence** and **specific factual findings** to support the obviousness rejection against claim 31. There is no factual basis to modify the detailed, explicit teachings of Leedy which is entirely directed towards forming devices by deposition as opposed to forming the devices to be comprised by bulk material. Claim 31 is allowable.

Secondly, the Examiner will be unable to locate objective evidence and specific factual findings for modifying the Leedy device because one skilled in the art would not modify the Leedy device to use bulk semiconductive material. The Leedy insertion device has a desired pattern wherein *a sacrificial substrate is used as a mold* and wherein the desired pattern of the insertion device is etched into the sacrificial substrate. Then, material for forming the insertion device is **deposited** into the pattern of the sacrificial substrate to form the insertion device:

The insertion structures of the present invention are formed by etching the desired pattern of projecting structures into a sacrificial substrate...The primary requirements that the sacrificial substrate must meet are: (i) it can be etched to form the desired insertion structure shapes; (ii) it can be polished to a sufficient flatness tolerance; (iii) it can withstand subsequent processing steps; and (iv) it can be selectively etch removed uniformly in part or whole.

Col. 3, lines 48-68. Leedy specifically teaches that the sacrificial substrate has very specific four “primary requirements” which would be needed of the bulk semiconductive material if the Leedy device is to be appropriately modified by the teaching of Asch (assuming for argument sake that the teaching of Asch to monocrystalline silicon is a teaching to bulk semiconductive material). However, the Examiner has pointed to no objective evidence or specific finding of fact that bulk semiconductive material will provide or meet the specific four “primary requirements” of Leedy. Without this required

demonstration, an obviousness rejection based on modifying the Leedy device to have bulk semiconductive material substituted for the sacrificial substrate can not stand.

Additionally, the Leedy device uses the substrate for forming the insertion device as a **sacrificial** substrate, that is, as a mold to form the insertion device but not as part of the insertion device itself. In direct contradiction, claim 31 recites a substrate comprising bulk semiconductive material and a **projection** supported over the substrate and **comprising material of the substrate**, and a *grouping of a plurality of projecting apexes extending from the projection*. That is, claim 31 uses the bulk semiconductive material as the substrate of the engagement probe wherein Leedy uses the sacrificial substrate as the mold of the insertion device which is subsequently pulled from the mold (sacrificial substrate). *The sacrificial substrate (mold) forms no part of the insertion device.* So even modifying the Leedy device as stated by the Examiner fails to provide a teaching of positively stated limitations of claim 31. Consequently, the obviousness rejection against claim 31 is inappropriate and should be withdrawn. Claim 31 is allowable.

Claims 32-41, 45-46, 55, 60-62 and 66-68 depend from allowable independent claim 31, and therefore, are allowable for depending from an allowable independent claim.

Regarding the obviousness rejection against independent claim 51 based on Leedy and Asch, the claim recites a substrate comprising monocrystalline silicon. The Examiner states Leedy fails to teach this limitation and presents Asch to provide the deficiency in the alleged teachings of claim 51. However modifying the Leedy device would only be modifying the **sacrificial** substrate which is not used for the insertion devices of Leedy. Accordingly, this modification is not a teaching of the limitations of claim 51 directed to the engagement probe comprising a substrate comprising monocrystalline silicon and a

projection supported over the substrate and comprising material of the substrate, and a grouping of a plurality of projecting apexes extending from the projection. That is, claim 51 uses the monocrystalline silicon as the substrate of the engagement probe wherein Leedy does not. So even modifying the Leedy device as stated by the Examiner fails to provide a teaching of positively stated limitations of claim 51. Consequently, the obviousness rejection against claim 51 is inappropriate and should be withdrawn. Claim 51 is allowable.

Regarding the rejection against claim 53 as being anticipated by Leedy, such claim is amended to recite wherein an entirety of the projection is spaced from the substrate and has a different shape relative the projecting apexes other than size dimensions. The amendment language is supported by the originally-filed application at, for example, Fig. 9. The art of record, singularly or in any combination, fails to teach or suggest the positively recited limitation of claim 53. Even the arbitrary configuration of a projection and apexes provided by the Examiner at page 2 of paper no. 20061206 (Fig. A) has the apexes and projection being the same shape. Consequently, claim 53 is allowable.

Dependent claims 56-58 and 69-71 depend from allowable independent claim 53, and therefore, are allowable for depending from an allowable independent claim. Regarding the obviousness rejection against independent claim 54 based on Leedy and Asch, the claim recites a substrate comprises bulk silicon. The Examiner states Leedy fails to teach this limitation and presents Asch to provide the deficiency in the alleged teachings of claim 54. However, Asch teaches monocrystalline silicon, not bulk silicon. The Examiner reasons that since Applicant's disclosure teaches "semiconductor substrate fragment 10 comprised of a bulk substrate 12, preferably constituting monocrystalline


silicon" (pg. 7, Ins. 7-9 of originally-filed application), that the Asch teaching to monocrystalline silicon is a teaching to bulk silicon. The Examiner states that it is an obvious design choice to modify the sacrificial substrate of the Leedy device to be bulk silicon. However, pursuant to the Federal Circuit Court authority presented previously, the Examiner does not provide the required **objective evidence** and **specific factual findings** for modifying the Leedy device. One skilled in the art would not modify the extensive Leedy teachings of deposition to form the insertion device of Leedy as opposed to using the claimed bulk silicon instead. Without this required demonstration, an obviousness rejection based on modifying the Leedy device can not stand. Consequently, the obviousness rejection against claim 54 is inappropriate and should be withdrawn. Claim 54 is allowable.

Dependent claims 59 and 72-74 depend from allowable independent claim 54, and therefore, are allowable for depending from an allowable independent claim.

This application is now believed to be in immediate condition for allowance, and action to that end is respectfully requested. If the Examiner's next anticipated action is to be anything other than a Notice of Allowance, the undersigned respectfully requests a telephone interview prior to issuance of any such subsequent action.

Respectfully submitted,

Dated: 4-16-07

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